

Vol. III

No. 7

BULLETIN  
OF THE  
Chicago Academy of Sciences

FALL ANNOUNCEMENTS 1911



CHICAGO  
Published by the Academy  
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## COURSES IN NATURE-STUDY WORK

The following courses in nature-study will be given at the Academy during the fall season of 1911:

**COURSE VIII. LEAVES AND SMALL FRUITS.** A laboratory course for delegates from the 7th and 8th grades. The course will be limited to 40 delegates. Admission may be had by delegates' cards. Wednesdays from 4:00 to 5:00 P.M. By DR. H. S. PEPON.

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|---------------------------|---|
| Lesson I, September 13.   | The Mature Leaves of Forest Trees: Determination of, Drawings, Preservation, Classification, Changing Colors. |
| Lesson II, September 20.  | The Mature Leaves of Forest Trees: Careful Study of Oaks, Poplars, and Maples.                                |
| Lesson III, September 27. | The Mature Leaves of Forest Trees: Careful Study of Willows, Elms, Ashes, and Walnuts.                        |
| Lesson IV, October 4.     | The Mature Leaves of Forest Trees: Careful Study of Cherries, Plums, Thorns, and Crabs.                       |
| Lesson V, October 11.     | The Wind Fruits: Associated with wind as the agent of seed dispersal.   |
| Lesson VI, October 18.    | The Animal Fruits: Associated with animals as agents of seed dispersal.                                       |

**COURSE IX. ELEMENTARY NATURAL HISTORY.** The gathering, preparation, and study of Natural History specimens. The course will be limited to fifteen pupils. Admission may be had on application. Saturdays at 9 A.M. By MR. FRANK C. BAKER, Curator of the Academy.

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|---------------------------|--|
| Lesson I, September 16.   | Preparation of material for work: Cyanide collecting-bottles, insect nets, storage boxes and bottles, cigar-box cabinet. |
| Lesson II, September 23.  | Excursion to Bowmanville for collecting butterflies, beetles, flies, caterpillars, and snails. Car-fare 10 cents.        |
| Lesson III, September 30. | Laboratory work: Spreading butterflies' wings; pinning beetles and other insects; preparing snails for study.            |
| Lesson IV, October 7.     | Laboratory work: Preparing specimens for the cabinet and for study; cigar-box cabinet for insects; cabinet for snails.   |

- Lesson V, October 14.     Something about insects: Scientific names, common names; how to name insects; books to study.
- Lesson VI, October 21.     Something about snails and other mollusks: How to name them; books to study.

COURSE X. A STUDY OF SOME COMMON FARM PRODUCTS. An attempt will be made to give the pupils a clear idea of the growth, cultivation, and uses of our common farm products. The lessons will be illustrated with lantern slides and when possible the actual specimens will be used. It is hoped a field trip can be arranged to a near-by farm. The course will be limited to pupils of the 5th and 6th grades, and admission may be had by delegates' tickets. Tuesdays at 4:00 P.M. By MISS MARY A. HARDMAN.

- Lesson I, September 19.     Wheat raising: The preparation of the soil; the planting, growing, harvesting, threshing, and milling of wheat.
- Lesson II, September 26.     Corn raising: The soil preparation; planting, cultivation, harvesting, and uses of corn.
- Lesson III, October 3.     Cotton growing: Soil preparation; planting, growing, picking, ginning, packing, shipping, and milling of cotton.
- Lesson IV, October 10.     Hay raising: Raising of clover, alfalfa, timothy; their uses and value as farm products.
- Lesson V, October 17.     Truck farming: The raising of fruits and vegetables.
- Lesson VI, October 24.     Cattle raising: Kinds of cattle; their food, milking, butter making, cheese making.

COURSE XI. HOW TO KNOW THE COMMON MINERALS AND ROCKS. A study of the characteristics, formation, and identification of the more common minerals and rocks with an occasional field trip. For delegates from the 5th and 6th grades. Saturdays at 10 A.M. By MISS MARY A. HARDMAN.

- Lesson I, October 7.     The common minerals: A study of quartz, calcite, feldspar, mica, gypsum, chert, iron pyrites, etc.
- Lesson II, October 14.     The sedimentary rocks: Sandstone, limestone, shale, conglomerate, coal.
- Lesson III, October 21.     The igneous rocks: Granite, syenite, dolerite, basalt, felsite, glass.

- Lesson IV, October 28. The metamorphic rocks: Gneiss, schist, quartzite, marble, slate, anthracite coal, breccia.
- Lesson V, November 4. Laboratory work in identification of materials.
- Lesson VI, November 11. Laboratory work in identification of materials.

COURSE VII. A FIELD COURSE FOR TEACHERS (continued from the Spring Quarter). By DR. H. S. PEPOON.

Field Trip V, September 16. Asters and goldenrods.

Field Trip VI, September 30. Gentians and the last flowers.

Directions for meeting will be sent by mail to members of the class.

COURSE XII. NATURE-STUDY COURSE FOR TEACHERS. An advisory laboratory course in the use of nature materials and lessons therefrom. Each session limited to the teachers of grades designated. Tables and materials furnished so that the actual lessons taught by the various objects may be demonstrated. Mondays at 4:00 P.M. By DR. H. S. PEPOON.

September 9, at 9:00 A.M. A preliminary meeting of all grades.

Lesson I, September 11. Grades 1 and 2.

Lesson II, September 18. Grades 3 and 4.

Lesson III, September 25. Grade 5.

Lesson IV, October 2. Grade 6.

Lesson V, October 9. Grade 7.

Lesson VI, October 16. Grade 8.

COURSE XIII. STUDIES OF BIRDS. A study of the identification, flight, feeding habits, and migration of the common Chicago birds. Field and laboratory work. Six lessons for teachers, beginning Saturday, September 23, at 9:00 A.M. The first meeting will be at the Academy building in Lincoln Park, and directions for the next meeting will be announced at the close of the first lesson. By MR. FRANK M. WOODRUFF.

#### TEACHERS COLLEGE CREDIT COURSE

##### POLITICAL GEOGRAPHY

By WALTER SHELDON TOWER, PH.D.

Assistant Professor of Geography at The University of Chicago

A study of the geographic forces that have influenced the formation and development of the leading nations of the world. An examination of the geographic facts connected with recent and present international questions. The course is so conducted as to require the student to acquaint himself with the main facts of the geography of each country studied.

Thursdays 4:00 to 6:00 P.M. Autumn and Winter Quarters. First meeting October 5. Tuition \$13.50 for a Major credit, twenty-four lessons; \$7.00 for a Minor, twelve lessons.

## FRIDAY EVENING PUBLIC LECTURES

The opening number of this course will be an illustrated lecture on "The Underground Realm," by DR. WALLACE W. ATWOOD, on Friday, October 20, at 8:00 P.M., in the Academy lecture-room. Announcements of the later lectures will be posted on the Academy Bulletin Board. These lectures will be free to the public.

## CLASS WORK AT THE ACADEMY

The Academy cordially invites teachers to bring their classes to the Academy and offers to provide, whenever possible, and when it is desired by the teacher, someone to assist in conducting the lesson at the museum.

We trust that all classes visiting the Museum will register at the office. Arrangements for special class meetings at the Museum should always be made by appointment. This may often be done conveniently by telephone, calling Lincoln 2410 and asking for the Academy office.

## ILLUSTRATED LECTURES AT THE SCHOOLS

The Academy will continue to offer a limited number of illustrated lectures on scientific topics, free of charge, in the public schools. These lectures must be arranged for by special appointment.

## MUSEUM LOAN COLLECTIONS

It is the policy of the Academy to promote in all ways possible the use of the Museum Collections in the public schools. The officers of the Academy are desirous of improving these collections in every way possible, and of adding such new collections as will be used. We hope to prepare additional reading-matter to accompany the collections and, if possible, to add photographic illustration to each collection.

Collections may be retained for one week from date of issue. Birds and other specimens of a fragile or delicate nature must not be handled by the pupils. Only one collection will be issued at one time, but this may be exchanged for another at the expiration of the allotted time. It is expected that the collections will be returned to the Academy in good condition. The following collections are now ready for use:

## BIRD SERIES

	NO. OF SPECIMENS
No. B 1. Winter Residents . . . . .	6
No. B 2. Residents . . . . .	6
No. B 3. Early Spring Arrivals . . . . .	6
No. B 4. Birds of the Great Lakes . . . . .	3
No. B 5. Birds of the Air . . . . .	6
No. B 6. Summer Residents . . . . .	6
No. B 7. Birds of Swamps . . . . .	6
No. B 8. Birds of Shores of Lakes . . . . .	5
No. B 9. Birds of Prey . . . . .	4
No. B10. Seed-eating Birds . . . . .	5
No. B11. Swimming Birds . . . . .	4
No. B12. Wading Birds . . . . .	4
No. B13. Six Common Birds . . . . .	6
No. B14. Grouse and Pigeon . . . . .	3
No. B15. Six Migrant Warblers . . . . .	6
No. B16. Six Common Woodpeckers . . . . .	6
No. B17. Six Common Warblers . . . . .	6
No. B18. Six Familiar Birds . . . . .	6

## ZOOLOGICAL SERIES

No. Z19. Three Common Fishes . . . . .	3
No. Z20. Six Common Mammals . . . . .	6
No. Z21. Life History of a Butterfly . . . . .	7
No. Z22. How Insects Hide . . . . .	7
No. Z23. Grasshoppers and Dragon-Flies . . . . .	11
No. Z24. Ants, Bees, and Wasps . . . . .	9
No. Z25. Flies . . . . .	9
No. Z26. Bugs . . . . .	9
No. Z27. Beetles . . . . .	12
No. Z28. Lace-winged Insects . . . . .	4
No. Z29. Some Common Butterflies . . . . .	8
No. Z30. Some Common Moths . . . . .	5
No. Z31. Life History of a Beetle . . . . .	10
No. Z32. The Chambered Nautilus . . . . .	1
No. Z33. Snails of Field and Forest . . . . .	10
No. Z34. The Oyster and Its Relatives . . . . .	10
No. Z35. Beautiful Shells of the Tropics . . . . .	7
No. Z36. A Day with the Pond Snails . . . . .	10
No. Z37. Odd and Interesting Sea Snails . . . . .	8
No. Z38. Star-Fishes and Sea-Urchins . . . . .	7
No. Z39. Corals . . . . .	7
No. Z40. Sea Fans and Sea Plumes . . . . .	3

## ECONOMIC SERIES

		NO. OF SPECIMENS
No. E35.	The Wheat Industry . . . . .	24
No. E36.	The Wheat Industry . . . . .	24
No. E37.	The Wheat Industry (Charts) . . . . .	2
No. E38.	The Wheat Industry (Charts) . . . . .	2
No. E39.	The Featherbone Industry . . . . .	14
No. E40.	The Featherbone Industry . . . . .	14
No. E41.	The Pearl Button Industry . . . . .	7
No. E42.	The Ivory Button Industry . . . . .	5
No. E43.	Some Common Ores . . . . .	11
No. E44.	Artificial Abrasives . . . . .	11
No. E45.	The Iron and Steel Industry . . . . .	11
No. E46.	Aluminum Ores and Products . . . . .	7
No. E47.	Coal . . . . .	5
No. E48.	The Silk Industry . . . . .	14
No. E49.	The Cotton Industry . . . . .	11
No. E50.	The Wheat Industry . . . . .	24
No. E51.	The Wheat Industry (Charts) . . . . .	2
No. E52.	Some Familiar Commercial Woods . . . . .	18

## GEOLOGICAL SERIES

No. G53.	Eight Common Rocks.
No. G54.	Some Common Sedimentary Rocks.
No. G55.	Some Common Igneous Rocks.
No. G56.	Some Common Metamorphic Rocks.
No. G57.	Fossils of Rock of Chicago Area.
No. G58.	Examples of Weathering.
No. G59.	Crystals of Common Minerals.
No. G60.	Geodes, Concretions, Agates, Nodules, etc.
No. G61.	The Mantle Rocks.

## LANTERN SLIDES

At the urgent request of many, the Academy has undertaken to prepare several sets of lantern slides illustrating natural history and other scientific work conducted in the schools. These sets may be borrowed by a teacher or a principal upon written application. A set of lantern slides may be retained for one week. It is expected that special care will be taken of this material and that it will be returned to the Academy in good condition. The following sets are now ready:

## NATURE-STUDY

		NO. OF SLIDES
No. L 1.	Resident Birds . . . . .	13
No. L 2.	Winter Birds . . . . .	12



	NO. OF SLIDES
No. L 3. Migrant Birds.....	14
No. L 4. Summer Birds.....	36
No. L 5. Foreign Mammals.....	19
No. L 6. American Mammals.....	23
No. L 7. Fresh-Water Pearl Button Industry.....	25
No. L 8. Pearls and Mother-of-Pearl.....	21
No. L 9. Sponges.....	21
No. L10. Conservation of Forests.....	12
No. L11. Lower Animals.....	26
No. L12. Fishes and Reptiles.....	15
No. L13. Wave Work.....	14
No. L14. River Work.....	22
No. L15. Alaska.....	35
No. L16. Yellowstone Park.....	36
No. L17. The Coffee Industry.....	31
No. L18. Rubber and Sisal Hemp.....	25
No. L19. Some Common Trees.....	29
No. L20. Mountains.....	45
No. L21. Glaciers.....	20
No. L22. Weathering and Wind Work.....	19
No. L23. The Silk Industry.....	19

#### PICTURE COLLECTIONS

Many teachers have found pictures, especially stereoscopic views, of special value to them in their work, and in response to many suggestions and requests the Academy has purchased a number of sets of stereoscopic views which illustrate topics in nature-study and physiography work. A set of views may be borrowed by a teacher, or principal upon written application and retained for one week. The following sets of views are now ready for distribution:

#### PHYSIOGRAPHY

	NO. OF VIEWS
No. P 1. Weathering and Stream Erosion.....	25
No. P 2. Glaciers.....	25
No. P 3. Shore Lines and Harbors.....	25
No. P 4. Mountains.....	25

#### NATURE-STUDY

No. P 5. American and Foreign Mammals.....	30
No. P 6. American and Foreign Birds.....	25
No. P 7. Fruits of Tropical and Temperate Climes....	30
No. P 8. Domestic Animals.....	15

## ECONOMIC SUBJECTS

	NO. OF VIEWS
No. P 9. The Cotton Industry.....	25
No. P10. Iron and Steel Industry.....	35
No. P11. Wheat, Corn, and Oats.....	25
No. P12. Lumbering.....	25
No. P13. Silk Industry.....	19
No. P14. Copper Mining.....	13

## MEMBERSHIP

The Academy has now undertaken active educational work which is especially effective on the North Side. Heretofore, membership has been practically limited to persons especially interested in science or in the promotion of scientific work. The Academy will continue to carry on scientific research and encourage, as far as possible, progress along these lines, but a portion of the resources of the Academy and the efforts of the officers of the institution are now being directed toward adapting scientific knowledge and museum collections to distinctively educational work. The institution has therefore, become one with which all persons interested in the educational welfare of the city should become identified. The Academy conducts numerous courses of instruction and co-operates with the public and private educational work of the city as far as its resources permit.

Membership in the Academy is open to "any person residing in Chicago or vicinity who is in sympathy with the objects of the Academy." The Active Members constitute the governing body in the Academy and pay annual dues of five dollars each. Associate Members have all the privileges of Active Members except those of voting and holding office. Their dues are three dollars a year. A copy of each of the publications issued by the Academy is sent to all paid-up members. Special lecture and guest tickets are also issued to members.

Application blanks may be secured from the Secretary, who will be pleased to confer with any who may become so interested in the work of the Academy that they would like to become more directly associated with it.

WALLACE W. ATWOOD, *Secretary of the Academy*  
Lincoln Park, Chicago